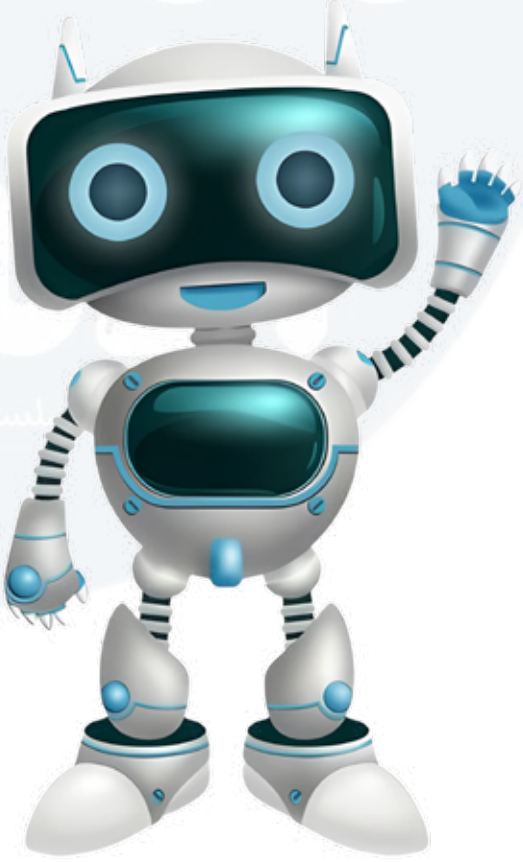
PONY

ICT

Final Revision

1st Preparatory

Second Term



Prepared by:

Mr. Mohamed Magdy

final Revision ① Summary

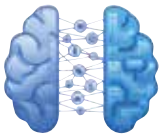
Lesson 1 Artificial Intelligence Applications

- **Narrow AI:** It focuses on specific tasks, such as face recognition or language translation.
- **General AI (GAI):** It can perform any human tasks, think, innovate, and adapt.
- **Super AI (SAI):** It is the most advanced; it can solve complex problems and discover new things.

Key Points:

- **Applications of AI in Daily Life:**
  1. **Personal Assistant:** Like Siri or Alexa, They use AI to understand and perform commands.
  2. **Smart Games:** Video games use AI to make games fun and challenging.
  3. **Smart Cars:** Self-driving cars are enabled by AI.
  4. **Digital Doctors:** AI aids in faster and more accurate medical diagnoses.
  5. **Instant Translator:** AI translates languages in real-time.
  6. **Smart Shopping:** AI suggests products based on previous **purchases.**

- **Fields of Artificial Intelligence:**
  1. **Machine Learning:** AI learns from data and experiences.
  2. **Natural Language Processing (NLP):** AI understands, interprets, and speaks human language.
  3. **Computer Vision:** AI analyzes and understands visual information.
  4. **Robotics:** AI-powered robots perform various tasks.
  5. **Expert Systems:** AI solves complex problems and make decisions.



6. **Deep Learning:** AI learns complex tasks using neural networks.

Creating Intelligent Models with Teachable Machine:

- **Teachable Machine:** It is a tool for creating models to recognize images, sounds, and movements.
- **Model Building Training:** Teaching AI by showing it examples is similar to teaching a child.

Lesson 2 Sensors

Definition:

Sensors: They are devices that sense changes in the environment and convert them into signals for machines to understand and make decisions.

Key Points:

How Sensors Work:

1. **Sensing:** They capture information (heat, light, and sound).
2. **Signal Conversion:** They convert information into electrical signals.
3. **Transmission:** They send signals to display results or perform operations.

Importance of Sensors for Robots:

– **Function:** Sensors act as the "senses" of robots, helping them see, hear, sense, and touch.

Types of Robotic Sensors:

1. **Distance Sensors:** They measure the distance to avoid collisions.
2. **Light Sensors:** They adapt to changing light conditions.
3. **Sound Sensors:** They respond to voice commands.
4. **Motion Sensors:** They detect movement and direction changes.
5. **Special Sensors:** They measure temperature and humidity.

Examples of Devices Using Sensors:

1. **Vacuum Cleaner Robot:** It avoids obstacles.

2. **Surgical Robot:** It uses precise sensors to perform surgeries.
3. **Self-Driving Cars:** They see the road and make decisions.

Types of Distance Sensors:

1. **Ultrasonic Sensors:** They emit high-frequency sound waves to measure distance.
   - **Examples:** Vacuum cleaner robots, parking systems, and fluid level measurement

2. **Laser Rangefinders:** They emit laser beams for high accuracy.
   - **Examples:** 3D laser scanners, ground scanning systems, and industrial measurement
3. **Visible Light Sensors:** They use digital cameras to analyze images.
   - **Examples:** Self-driving car cameras, industrial vision systems, and augmented reality systems
4. **Infrared Sensors:** They emit infrared rays, then receive the returning rays.
   - They are widely used in consumer electronics.

   - **Examples:** Remote controls, and non-contact thermometers
5. **Time of Flight Sensors:** They measure the light pulse travel time.
   - **Examples:** 3D sensors, and motion tracking systems

Factors for Choosing Sensors:

1. **Required Range:** The maximum distance to measure
2. **Required Accuracy:** The measurement precision needed
3. **Operating Environment:** Conditions like lighting, temperature, and humidity.
4. **Cost:** Device and installation expenses.

Daily Applications of Sensors:

1. **Smartphones:** Taking pictures, adjusting lighting, determining locations
2. **Modern Cars:** Measuring speed, warning of collisions, assisting in parking
3. **Smart Homes:** Motion sensors for automatic lighting
4. **Phone Microphone:** Converting sound to electrical signals
5. **Motion Sensors in Games:** Detecting phone tilts
6. **Touch Screen:** Sensing finger touches

Lesson 3 Robots

Definition:

Robot: It is a device programmed to automatically perform specific tasks, capable of moving, sensing, and interacting with its surroundings.

Key Points:

Types of Robots:

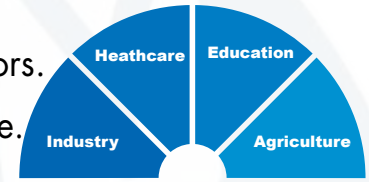
1. **Industrial Robots:** They are used in factories for precise tasks, e.g., car production.
2. **Home Robots:** They are found in homes, e.g., Roomba for cleaning floors.
3. **Medical Robots:** They assist in surgeries with high accuracy.
4. **Educational Robots:** They are used in schools to teach programming, e.g., LEGO Mindstorms.

Robot Components:

1. **Structure:** It is the main part carrying all components, made of materials like metal, plastic, or carbon.
2. **Sensors:** They are the senses of the robot, e.g., sound sensors and cameras.
3. **Motors:** They move parts of a robot, so it can move and execute commands, e.g., electric motors and pneumatic motors.

4. **Controller:** It is the "brain" of the robot, processes data and issues commands.
5. **Power Source:** It can be batteries, solar cells, or direct electrical power source.
6. **Software:** It makes the robot "smart," includes algorithms for responses.
7. **Communication Tools:** They interact with users or other robots, e.g., Bluetooth and Wi-Fi.

Areas of Use of Robots:



1. **Industry:** They improve productivity, reducing errors.
2. **Healthcare:** They assist in surgeries and patient care.
3. **Education:** They provide interactive learning.
4. **Agriculture:** They are used in precision farming to increase crops and reduce waste.

Challenges:

1. **Safety:** The need to ensure the safety of robots during work.
2. **Employment:** Concerns that they can replace human labor.
3. **Ethics:** Impact on society.

Benefits:

1. **Increased Efficiency and Productivity:** They can do continuous work without fatigue or interruption.
2. **High Accuracy and Reduced Errors:** They are precise in tasks, like surgeries and electronics assembly.
3. **Safety and Security:** They can perform dangerous tasks and handle heavy weights and hazardous materials.
4. **Adaptability and Diversity:** They perform various tasks efficiently. Ex: home robots and educational robots
5. **Reduced Costs:** They provide long-term cost savings by reducing human labor or errors, and achieving accuracy.
6. **Contributing to Development:** They encourage technological advancements, e.g., space exploration and medical research.

Lesson 4 Scratch

Definition:

- **Scratch Program:** It is a visual and easy-to-use educational tool for learning programming through games, animations, music, and more.

Key Points:

- **Scratch Program Features:**
  1. Simple Interface: It uses and orders visual blocks to form programs.
  2. Educational: It is designed to teach basic programming concepts in a fun way.
  3. Free: It is available for download from its official website for free.
  4. Creative Thinking: It develops skills in creative thinking and problem-solving.
  5. Problem-solving Skills: It solves problems in a logical way.
  6. Collaboration: It enhances teamwork skills.
  7. Foundation: It provides a strong start for learning more complex programming languages.
  8. Sharing: Its projects can be shared with others.
- **Program Interface:**
  - Menu Bar
  - Command Blocks Area
  - Script Area: It collects programming sections.
  - Stage Area: It shows project results.
  - Sprite Object
  - Sprites Area: It contains the project's objects.
- **Coordinates:**
  - Determine Coordinates: X=..... (horizontal), Y=..... (vertical)
  - Change Coordinates: Drag and drop the sprite to a new position.

Implement the project:

- To execute the project, click on the icon .
- To stop the execution of the project, click on the icon .

Saving the Project:

- File Menu: Choose "Save to your computer".
- The file extension is Sb3.

Lesson 5 Sprites Area in Scratch

Definition:

Sprites Area: It contains the sprites used in the project.

Key Points:

Sprites Area Features:

1. Name: It is modified by clicking and renaming.
2. Location: It determines the sprite's position (X, Y values).
3. Direction: It changes the sprite's movement direction.
4. Visibility: It shows or hides the sprite.
5. Size: It changes the sprite's size.
6. Delete: It removes the sprite.
7. Add: It is used to choose a new sprite.

Adding a New Sprite:

- Choose Sprite: Select Basketball.
- Remove: Delete the cat sprite.

Project 2: Moving the Ball

- Objective: To move the ball randomly, make a sound, repeat 10 times.

Steps:

1. Motion: Choose "Go to random position".
2. Sound: Choose "Play sound".
3. Control: Choose the "Repeat" command.
4. Events: Choose the "When Clicked" command.

Project 3: Spaceship

– Objective: To move a spaceship randomly, make a sound, change size, repeat 5 times, start from (0, 0).

– Steps:

1. Insert Sprite: Add Rocketship.
2. Remove: Delete the cat sprite.
3. Background: Choose "Space".

Square Drawing Project:

1. Open Project: Start a new project.
2. Select Pen: Drag the "pen" block to start drawing.
3. Set Color and Size: Use "Set Pen Color to" and "Set Pen Size to" blocks.
4. Move the Pen: Use "Go to x:y:" blocks to draw lines.
5. Repeat the Steps: Draw more lines to form shapes.

Drawing a circle:

- Use the "Repeat" block to repeat the process of drawing short lines at different angles.

Notes:

1. Drawing Shapes: Set start and end points for lines.
2. Adding Details: Add features like eyes, mouth, and ears.

Lesson 6 Principles of Python

Definition:

- Python: It is a programming language widely used in data science, machine learning, and web development.

Key Points:

Features of Python:

1. Open Source: It is free and open for everyone to use and develop.
2. Interpreted Language: It translates codes line by line, making error detection easier.
3. Versatility: It is used in web development, data science, AI, machine learning, and game programming.
4. Easy-to-Use: It is simple and organized, with syntax similar to English.
5. Integration: It can be integrated with languages like C, C++, and Java.
6. Libraries: Numerous libraries are available for various tasks.

Python Libraries:

- NumPy: It is used in data science, statistics, and AI.
- Pandas: It is used for data analysis and processing.
- Matplotlib: It is used for creating graphs and charts.

How to Download Python:

1. Visit: Go to the official Python website www.python.org.
2. Choose Download: Select the download option.
3. Select System: Choose your operating system (Windows, Mac, or Linux).
4. Choose Bit Version: Select 64-bit or 32-bit based on your device specifications.
5. Install: Download and install the program, following the instructions.

Lesson 7 Variables in Python

Definition:

- Variables: They are reserved places in memory to store values that can change during program execution.

Key Points:

Conditions for Naming Variables in Python:

1. Start with a letter or underscore (_).
2. Contain letters (A-Z), numbers, or underscore (_).
3. Avoid reserved words.

Types of Variables in Python:

1. Numbers: To store numerical values.

- Integer Variables (int): X = 5, Y = 10
- Decimal Variables (float): Z = 5.25, A = 8.32

2. Strings: To store texts, enclosed in single or double quotes.

– **Examples:** Name = "Taher", City = 'Cairo'

3. Booleans: They contain only two values, True or False.

– **Examples:** Is_taher_student = False, Is_taher_a_teacher = True

Python Program Interface:

1. Interactive Python Interface (Python Shell): It is used to write and execute simple codes directly.

– It is automatically installed when you install the language.

2. Text Editor: It is used to write longer, complex codes and save them for later execution.

Using the type ( ) Function:

– Purpose: To determine the type of a variable.

Simple Python Code Using Variables:

– Print Function: It displays text, variables, or results of mathematical operations on the output screen.

Model Exam 1

1 Choose the correct answer:

1. The function ..... is used to display texts or values on the output screen
   a. cos ( ) b. type ( ) c. print ( ) d. sin ( )
2. 🕮 In Scratch program, to add a sound effect to the sprite, use the command ..... .
   a. Repeat b. Looks
   c. Play Sound d. Choose a Backdrop
3. Narrow AI focuses on ..... .
   a. multiple tasks b. specific tasks
   c. human-like tasks d. all tasks
4. ..... help cars determine the distance to other vehicles.
   a. Sound sensors b. Distance sensors
   c. Infrared sensors d. Special sensors
5. 🕮 To stop the execution of the project, click the ..... icon.
   a. b.
   c. d. S

2 Put (✓) or (✗):

1. The texts of variables are placed between single quotation marks ' ' or double quotation marks " ". ( )
2. 🕮 Artificial intelligence can learn new things slowly. ( )
3. Sensors play a role in the movement of robots and sensing their surrounding environment. ( )

4 Only one sprite can be added to the platform. ( )

5 Python is a free and open-source language that does not allow anyone to develop it. ( )

3 Complete the following sentences:

1 To repeat a set of commands 10 times in the Scratch program, use the ..... block from the Control group.

2 Python ..... are pre-built codes and functions that help programmers perform specific tasks.

3 Robots use communication tools, such as ....., to interact with users or other robots.

4 To execute a Scratch project, click on the ..... icon.

5 ..... are used in robots to move their parts, such as robotic arms or wheels.

Model Exam 2

1 Choose the correct answer:

1 The text value of the variable is placed between the signs ..... .

a. "" b. <> c. ' ' d. both a and c

2 The Scratch program features include ..... .

a. that it's a free program

b. developing creative thinking

c. enhancing problem solving skills

d. both b and c

3 ..... are used to avoid obstacles.

a. Light sensors b. Sound sensors

c. Distance sensors d. Heat sensors

4 In Scratch, to repeat the sprite's movement, we use the ..... .

a. Start b. Choose Sprite

c. command Blocks Area d. Stop

5 ..... is the main purpose of the signal conversion step in sensors.

a. Displaying the results

b. Sending the signals to another device

c. Converting the information into electrical signals

d. Turning off the sensor

2 Put (✓) or (✗):

1 To know the type of the variable, we use the print ( ) function. ( )

2 📖 Self-driving cars rely entirely on artificial intelligence. ( )

3 The sprite can be deleted from the platform. ( )

4 📖 The first step in the operation of the sensor device is signal conversion. ( )

5 Smart games are used to make playing games more fun. ( )

3 Arrange the following robot components in the order they interact when a robot is performing a task:

1 ( ) The sensors detect information.

2 ( ) The controller processes the data collected from the sensors.

3 ( ) The motors execute commands.

4 ( ) The power source provides energy.

Model Exam 3

1 Choose the correct answer:

1 The benefits of using robots in industry include ..... .

a. decreasing human errors

b. improving productivity

c. reducing accuracy

d. both a and b

2 Robots assist in dangerous tasks, such as ..... .

a. transportation and comunication

b. handling heavy weights and hazardous chemicals

c. irrigating gardens and parks d. cleaning the house

3 Machine learning means ..... .

a. understanding Languages b. seeing the world

c. learning from mistakes d. deep learning

4 Scratch uses a visual interface based on ..... .

a. menus b. texts

c. icons d. blocks

5 ..... are used for non-contact temperature measurement.

a. Ultrasonic sensors b. Infrared sensors

c. Light sensors d. Motion sensors

2 Put (✓) or (✗):

1 In Is_taher_student = False, the statement type of the variable Is_taher_student is logical. ( )

2 In Scratch, the student needs to write a lot of complex codes. ( )

3 Medical robots help doctors perform surgeries. ( )

4 AI can look at a picture and tell you everything in it, which is called Computer Vision. ( )

5 The design of the structure affects the weight of the robot and its ability to move. ( )

3 Correct the underlined words:

1 Sound sensors help robots avoid collisions by measuring the distance to obstacles. (.....)

2 Narrow AI is a type of AI that can perform any task a human can do. (.....)

3 The Pen up block is used to draw a line in Python. (.....)

4 Scratch is a versatile language, meaning it is used for web development, AI, and game programming. (.....)

5 The type ( ) function in Python is used to display text or values on the output screen. (.....)

Model Exam 4

1 Choose the correct answer:

1 The challenges facing robotics technology include ..... .

a. an increased reliance on paper documents

b. an increased reliance on smartphones

c. safety, employment, and ethics

d. an increased reliance on traditional machines

2 If the movement is too fast, the command ..... from Control Blocks is used.

a. Wait b. Repeat c. Forever d. Else

3 A/An ....., like Siri or Alexa, use artificial intelligence to understand and execute your commands.

a. personal assitant b. instant translator

c. smart shopping d. natural language

4 ..... sensors are used to turn on lights when someone enters the room.

a. Smartphone b. Smart car

c. Smart home lighting system d. Smart watch

5 The Python Shell is ..... when Python is installed.

a. downloaded separately b. installed automatically

c. ignored d. none of them

2 Put (✓) or (✗):

1. 🕮 In City = "Cairo", the data type of the variable City is a string. ( )
2. To implement the project, click on the symbol . ( )
3. The design of the structure affects the weight of the robot and its ability to move. ( )
4. Distance sensors are used in measuring the distance between the robot and surrounding obstacles. ( )
5. 🕮 An ultrasonic sensor is used for non-contact temperature measurement. ( )

3 Correct the errors related to naming variables using Python in the following:

1. print (Hello World)

   .....

2. True= "Ahmed"

   .....

3. IsStudent = "False", where the value of variable is boolean

   .....

4. price= '100', where the value of variable is integer

   .....

5. name = Ahmed
   type ("name")

   .....

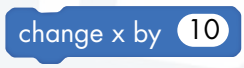
Model Exam 5

1 Choose the correct answer:

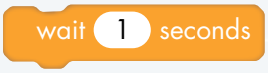
1 📖 ..... artificial intelligence can solve problems that are difficult for humans to solve easily and discover new things we never imagined before.

a. Narrow b. General c. Super d. Precise

2 To execute the project's steps, use the command ..... embedded at the beginning of the code segment.

a. 

b.

c. 

d.

3 One of the sensors that are used to measure distance using high-frequency sound waves is ..... .

a. ultrasonic sensors b. laser rangefinders
c. infrared sensors d. motion sensors

4 📖 In production lines, robots can perform repetitive tasks accurately and without any delay, which leads to ..... .

a. an increased efficiency and productivity
b. a decreased efficiency and productivity
c. a lack of product development
d. a slow production process

5 The sprite in Scratch represents the ..... .

a. background b. object or character
c. command block d. File menu

2 Put (✓) or (✗):

1 Variables in programming languages are reserved places in memory to store and save a specific value. ( )

2 The motors used in robots include electric motors and pneumatic motors. ( )

3 In the Scratch program, the result of the work or project appears in the Blocks Area. ( )

4 Pandas is a library used in data science, statistics, and artificial intelligence. ( )

5 It is not possible to create applications and websites using Python. ( )

6 Artificial intelligence is a branch of computer science. ( )

7 Laser rangefinders are accurate because they use laser beams. ( )

8 The control unit processes the data collected by the sensors and issues commands to the motors. ( )

9 Matplotlib is a library for data analysis and manipulation. ( )

10 In Scratch, we use the coordinates (x, y) to determine the location of a point on the stage. ( )

Model Exam 6

1 Choose the correct answer:

1 The structure of a robot can be made of materials, such as ..... .
a. metals b. plastic c. carbon d. all of them

2 To add a new project, press on ..... .
a. Start b. Choose Sprite c. Blocks Area d. Stop

3 The factors that determine the choice of a sensor for a particular application include the ..... .
a. brand of the device
b. color of the device
c. environment and required accuracy
d. size of the device

4 In which environment are light sensors useful?
- a. In dark rooms
- b. In places with variable lighting conditions
- c. In underwater environments
- d. In noisy factories

5 The main function of a sensor is to ..... .
- a. store data
- b. capture environmental changes and convert them into signals
- c. display images
- d. produce sounds

2 Put (✓) or (✗):

1 The variable name must not begin with a letter or an underscore sign (_). ( )

2 📖 In the Scratch program, the Stage Area displays the code blocks. ( )

3 Matplotlib is a Python library used in analyzing data. ( )

4 📖 Artificial intelligence is only used in the video game industry. ( )

5 📖 Python is used in developing web applications, data science, artificial intelligence, machine learning, and game programming. ( )

3 Complete the following sentences:

1 The ..... is the "brain" of the robot, processing data from sensors.

2 Laser rangefinders are characterized by their high ..... and longer range.

3 ..... enables AI to understand and respond to human languages.

4 ..... includes algorithms that make a robot smart.

5 The sprites area in Scratch contains the ..... used in the project.

Model Exam 7

1 Choose the correct answer:

1. In Scratch, you can save the project from the ..... menu.
   a. Edit b. Home c. File d. none of them
2. 🕮 In the Scratch program, the result of the work or project appears in the ..... .
   a. Script Area b. Stage Area c. Area Blocks d. Sprites Area
3. The first step in the operation of a sensor is ..... .
   a. transmitting b. displaying c. sensing d. transduction
4. 🕮 One of the common applications of sensors is the use of infrared in ..... .
   a. smartphones b. remote controls
   c. vacuum cleaners d. 3D scanning
5. Sensors help robots to ..... .
   a. teach them new languages
   b. allow them to interact with their environment
   c. increase their size
   d. slow down their operations

2 Put (✓) or (✗):

1. TAHER, Taher, taher, TaheR are 4 names for variables in the Python language. ( )
2. Python is one of the most difficult programming languages. ( )
3. 🕮 Artificial intelligence is only one type. ( )
4. The horizontal and vertical axes are used to know the current location of the sprite on the platform. ( )
5. In the Scratch program, students face difficulty in sharing projects with others. ( )

3 Complete the following sentences:

1. In Python, variable names must begin with a ..... or an underscore.
2. Python is an ..... language, meaning it translates code line by line.
3. Ultrasonic sensors use high frequency ..... waves to measure the distance to an object.
4. Deep learning depends mainly on ..... .
5. ..... is the most advanced type of AI.

Model Exam 8

1 Choose the correct answer:

1. In Scratch, Y=0 represents the ..... axis.
   a. horizontal b. vertical c. diagonal d. none of them
2. Laser rangefinders are accurate because they use ..... .
   a. sound waves b. visible lights
   c. high-frequency waves d. laser beams
3. ..... are used to avoid obstacles.
   a. Light sensors b. Sound sensors
   c. Distance sensors d. Heat sensors
4. Robots use ..... to interact with users or other robots.
   a. sensors b. communication tools
   c. motors d. power sources
5. In Scratch, X=0 represents the ..... axis.
   a. horizontal b. vertical c. diagonal d. none of them

2 Put (✓) or (✗):

1. 🕮 Python can be integrated with other languages, such as C, C++, and Java. ( )
2. 🕮 The Scratch program helps the student learn the principles of programming. ( )
3. Robots rely on direct energy sources only and we cannot use batteries or solar cells. ( )
4. The variable name can contain letters (A-Z), numbers, or an underscore sign (_). ( )
5. The location of the sprite on the platform is determined by the value of the horizontal axis X only. ( )

3 Complete the following sentences:

1. Variable names in python can contain ....., ... and ..... .
2. Python is ..... source, meaning it allows everyone to use and develop it.
3. To add a new sprite in Scratch, click on the ..... button in the Sprites Area.
4. The file extension for Scratch projects is ..... .
5. Robots use ..... to move their parts, such as robotic arms.

Model Exam 9

1 Choose the correct answer:

1. In Scratch, to set the line thickness, use the ..... block.
   a. Set Pen Size to
   b. Set Pen Color to
   c. Change Pen Size by
   d. none of them

2 ..... are commonly used in remote controls.

a. Ultrasonic sensors b. Infrared sensors

c. Light sensors d. Motion sensors

3 📖 Python translates a code line by line, which means it is ..... .

a. a complex language b. an interpreted language

c. a closed source d. not integrated

4 The background "Space" in Scratch is chosen by clicking on ..... .

a. Choose a Backdrop b. Choose a Sprite

c. Choose a Sound d. Choose a Motion

5 📖 The file extension for a Scratch project is ..... .

a. DOCX b. SB3

c. BMP d. JPG

2 Put (✓) or (✗):

1 One of the disadvantages of Python is the lack of libraries that you can use. ( )

2 The sprite name can be modified only once. ( )

3 The motors used in robots include electric motors and air motors. ( )

4 Artificial intelligence is a science of computer science. ( )

5 When naming variables, reserved words in the Python language may be used. ( )

3 Complete the following sentences:

1 The ..... is the main part of the robot that carries all its components and can be made of materials like metals or plastic.

2 Visible light sensors use ..... to analyze images.

3 ..... is a tool that helps create AI models to recognize images, sounds, and movements.

4 To create movement in Scratch, you use commands from the ..... group.

5 To change the direction of a sprite, modify the ..... value.

Model Exam 10

1 Choose the correct answer:

1 The official website of Python is ..... .
- a. www.python.org
- b. www.python.edu
- c. www.pythonlibr.adp
- d. www.application.org

2 The first step in the operation of a sensor is ..... .
- a. transmitting
- b. displaying
- c. sensing
- d. transduction

3 Python can be integrated with ..... .
- a. C
- b. C++
- c. Java
- d. all of them

4 The "Go to random position" command is found in the ..... group.
- a. Motion
- b. Sound
- c. Control
- d. Events

5 The "Wait" command is found in the ..... blocks.
- a. Motion
- b. Looks
- c. Events
- d. Control

2 Put (✓) or (✗):

1 In Y= 10, the data type of the variable Y is an integer. ( )

2 NumPy is a library used in data science, statistics, and artificial intelligence. ( )

3 The sprites used in the project appear in the Sprites area. ( )

4 Visual Studio is an example of a text editor used for Python programming. ( )

5 To add a new sprite, click on Choose Sprite. ( )

3 Match:

Column (A)	Column (B)
1 In Scratch, "Set Pen Size to"	a. are used in classrooms.
2 Boolean is:	b. measure the body temperature without contact.
3 Educational robots	c. changes the thickness of the line.
4 Ultrasonic sensors	d. Is_taher_a_teacher = True
5 Temperature sensors	e. measure distance using sound waves.

1 ..... 2 ..... 3 ..... 4 ..... 5 .....

Answers

Model Exam 1

1. 1 c 2 c 3 b 4 b 5 b
2. 1 ✓ 2 ✗ 3 ✓ 4 ✗ 5 ✗
3. 1 Repeat 2 libraries 3 Bluetooth – Wi-Fi 4 green flag 5 Motors

Model Exam 2

1. 1 d 2 d 3 c 4 c 5 c
2. 1 ✗ 2 ✗ 3 ✓ 4 ✗ 5 ✓
3. 4 → 1 → 2 → 3

Model Exam 3

1. 1 d 2 b 3 c 4 d 5 b
2. 1 ✓ 2 ✗ 3 ✓ 4 ✓ 5 ✓
3. 1 Distance sensors 2 GAI 3 Pen down 4 Python 5 print ( )

Model Exam 4

1. 1 c 2 a 3 a 4 c 5 b
2. 1 ✓ 2 ✓ 3 ✓ 4 ✓ 5 ✗
3. 1 print ("Hello World") – The text should be placed between " ".
   2 name = "Ahmed" – Reserved words are not used as variable names.
   3 is_student= false – Boolean values are not placed between " ".
   4 price= 100 – Numeric values are not placed between " ".
   5 type (name) – Input of type ( ) should be a variable name without " ".

Model Exam 5

1. 1 c 2 d 3 a 4 a 5 b
2. 1 ✓ 2 ✓ 3 ✗ 4 ✗ 5 ✗ 6 ✓ 7 ✓ 8 ✓ 9 ✗ 10 ✓

Model Exam 6

1 1 d 2 c 3 c 4 b
5 b

2 1 ✗ 2 ✗ 3 ✗ 4 ✗
5 ✓

3 1 controller 2 accuracy
3 Natural Language Processing
4 Software 5 sprites

Model Exam 7

1 1 c 2 b 3 c 4 b
5 b

2 1 ✓ 2 ✗ 3 ✗ 4 ✓
5 ✗

3 1 letter 2 interpreted
3 sound
4 neural networks
5 SAI

Model Exam 8

1 1 b 2 d 3 c 4 b
5 a

2 1 ✓ 2 ✓ 3 ✗ 4 ✓
5 ✗

3 1 letters – numbers – underscores
2 open 3 Choose Sprite
4 sb3 5 motors

Model Exam 9

1 1 a 2 b 3 b 4 a
5 b

2 1 ✗ 2 ✗ 3 ✓ 4 ✓
5 ✗

3 1 structure
2 digital cameras
3 Teachable Machine
4 Motion 5 direction

Model Exam 10

1 1 a 2 c 3 d 4 a
5 d

2 1 ✓ 2 ✓ 3 ✓ 4 ✓
5 ✓

3 1 c 2 d 3 a 4 e
5 b